

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/061790 A1

- (51) International Patent Classification⁷: **D21H 11/20**, 21/14, C08F 251/02
- (74) Agent: **SEPPO LAINE OY**; Itämerenkatu 3 B, FI-00180 HELSINKI (FI).
- (21) International Application Number: **PCT/FI2004/000795**
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date:
23 December 2004 (23.12.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
20031903 23 December 2003 (23.12.2003) FI
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (for all designated States except US): **VALTION TEKNIILLINEN TUTKIMUSKESKUS** [FI/FI]; Vuorimiehentie 5, FI-02150 ESPOO (FI).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BUCHERT, Johanna** [FI/FI]; Alalinnake 5 A 9, FI-02160 ESPOO (FI). **GRÖNQVIST, Stina** [FI/FI]; Vehkasuontie 18 A 4, FI-06750 TOLKKINEN (FI). **MIKKONEN, Hannu** [FI/FI]; Puistokuja 12 A, FI-05201 RAJAMÄKI (FI). **OKSANEN, Tarja** [FI/FI]; Ensimmäinen Huvilatie 5A, FI-02730 ESPOO (FI). **PELTONEN, Soili** [FI/FI]; Sointulantie 33, FI-05200 RAJAMÄKI (FI). **SUURNÄKKI, Anna** [FI/FI]; Tallipojankuja 6 B, FI-02940 ESPOO (FI). **VIIKARI, Liisa** [FI/FI]; Lökkikuja 5 F, FI-00200 HELSINKI (FI).
- Published:**
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/061790 A1

(54) Title: PROCESS FOR PRODUCING A FIBROUS PRODUCT

(57) **Abstract:** The present invention concerns a process for modifying a lignocellulosic fibre material. In particular, the present invention gives new properties to the fibrous matrix of the material. This is achieved by producing fibrous products with modified properties by activating the fibres of the matrix with an oxidizing agent and attaching compounds to the activated fibre in order to incorporate desired, pre-selected properties into the fibre matrix. The invention makes possible to produce novel kinds of fibrous materials having practically a large variety of properties. Examples of such properties include hydrophobic hydrophilic character.

BEST AVAILABLE COPY